BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Development of Nationwide Broadband	)	WC Docket 07-38
Data to Evaluate Reasonable and Timely	)	
Deployment of Advanced Services to all	)	
Americans, Improvement of Wireless Broadband	)	
Subscribership Data, and Development of Data	)	
On Interconnected Voice over Internet Protocol	)	
(VoIP) Subscribership	)	

COMMENTS OF
CONNECTED NATION, INC.
ON BROADBAND MAPPING

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July 17, 2008

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SUMMARY

Connected Nation, Inc. is a non-profit organization that is dedicated to one goal: to make broadband technology work for previously underserved communities and markets across the United States in a way that improves community life and economic development. Broadband is the lifeblood of the Information Economy, and access to broadband is crucial for the nation's smaller communities and towns. Connected Nation believes that the federal government should do what it can to facilitate the collection and dissemination of accurate, timely, comprehensive, and verifiable information on the growth of broadband services in the United States and commends the Commission for its recent actions to improve its current data collection processes.

Connected Nation administers broadband stimulation programs that are the intended beneficiaries of the Commission's increased attention to the quality of broadband data that it collects and publishes. For years, the Commission has collected dated, unverifiable, and often incomplete data on the adoption of broadband services in the United States. With the recent Order in this docket, the Commission has taken important steps to remedy that situation by collecting more granular geographic broadband subscribership information and speed tiers. These new requirements should greatly increase the quality and utility of the broadband data, and those data will provide broadband stakeholders across the nation an important tool in our efforts.

By contrast, as proposed in Section IV(B) of the Further Notice, the Commission's proposal for a national broadband availability mapping program will not be helpful and would instead have the opposite effect. The Commission proposes to collect address-level availability information from broadband providers that have such information. In Connected Nation's experience in working with hundreds of broadband providers, from small start-up wireless ISPs and rural cable companies to the large cable and Bell companies, only a tiny minority have this

deployment address-level information readily available. Furthermore, the broadband providers that do not have deployment information in a systematized format are typically those that serve the small, rural and insular areas where lack of access to broadband is a concern. In short, the Commission's proposal for collecting the data that it intends to use to populate a national broadband availability map is simply not viable or useful. At best, the Commission would generate incomplete maps—with holes in the rural and remote areas where information about the extent of broadband availability is necessary for understanding and filling the broadband gaps. Maps such as these would do little to facilitate sound policy or broadband promotional programs like Connected Nation's.

At the same time, the Commission's mapping program could undermine the progress being made by state and local governments with programs such as Connected Nation's. A portion of the funding Connected Nation receives from state governments is directed at creating highly-detailed, comprehensive, and continuously-updated broadband availability maps, down to the street and household level. Unfortunately, the promise of a new (and free to the states) federal "broadband mapping" program could halt these detailed and dynamic state and local mapping efforts in their tracks—and replace it with a vastly inferior, static, dated, and woefully incomplete federal "map."

In these Comments on Broadband Mapping, Connected Nation proposes an alternative approach. The federal government should indeed work to achieve a detailed map of deployment of broadband services nationwide. But it can do so in concert with state and local broadband mapping and demand-stimulation initiatives—with a proven record of success. Connected Nation proposes that the Commission serve as a clearinghouse for nationwide broadband availability maps. As a national clearinghouse, the Commission would provide a central

resource and mapping portal for new Form 477 data on speed availability, new data produced through the Commission's household reporting system for broadband availability and speed, as well as broadband availability maps generated at the state level through public-private partnerships. This approach would ensure that national broadband data is comprehensive, detailed, accurate, timely, and—critically—useful.

The purpose of a federal broadband mapping program is to push the deployment and adoption of broadband services in every corner of America. The Commission should not lose sight of this purpose. Unfortunately, its actions in this docket can halt the spread of the real progress that is being made on the ground today through demand-stimulation programs in states across the country. Connected Nation's proposal would put the federal broadband mapping program on the right track in a way that would build upon and facilitate more such success stories.

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COMMENTS OF CONNECTED NATION, INC. ON BROADBAND MAPPING

Connected Nation, Inc. is a non-profit organization that is dedicated to one goal: to make broadband technology work for previously underserved communities and markets across the United States in a way that improves community life and economic development, so that no community is left behind. Broadband is the lifeblood of the Information Economy, and access to broadband is crucial for the nation's smaller communities and towns. To achieve this goal, in a number of states Connected Nation operates successful broadband mapping and broadband demand-stimulation programs, such as ConnectKentucky, Connected Tennessee, Connect Ohio, and Connect West Virginia. These programs are driven and funded by state governments and local leaders that are taking charge of the digital futures of their states and communities. Importantly, these programs have helped boost broadband adoption and availability substantially in those areas.

In Section IV(B) of the *Further Notice of Proposed Rulemaking* in this docket, the Commission "acknowledge[s] the success of the ConnectKentucky initiative and its

interactive mapping program," and it affirmatively states that it is embarking upon a federal

broadband availability mapping project to facilitate future growth of such programs. In

particular, the Commission notes that "the ConnectKentucky program, along with other

efforts at the state level, has facilitated identification of areas without broadband service, and

that this identification has resulted in public and private resources being focused to provide

service to unserved areas." As a result, the Commission sought comment on ways that a

national broadband mapping program "can provide useful information to other broadband

initiatives undertaken by federal and state agencies and public-private partnerships, such as

ConnectKentucky."[1]

Connected Nation appreciates the Commission's acknowledgement of the success of

ConnectKentucky, our pilot broadband demand and supply stimulation program, and we

agree with the Commission that a national broadband map is imperative to help inform the

broadband policy debate and, most importantly, help identify the broadband gaps and

effectively fill them. Connected Nation strongly believes that the federal government could

and should collect accurate, timely, comprehensive, reliable, and verifiable broadband

information. This information will promote sound public policy at the federal, state, and

local level, inform grassroots broadband demand stimulation strategies, and also provide

accurate information to businesses and consumers across the nation regarding the existence

and type of broadband services that are available in their communities.

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[1]   *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership,* WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, FCC 08-89 (rel. Jun. 12, 2008) ("Broadband Data Order" and "Further Notice") at ¶ 34.

Unfortunately, the Commission's proposal, if adopted, would fail to achieve this goal. As discussed below, the Commission's proposal would collect incorrect and incomplete information that would be of only marginal use for policy makers, the provider community, and consumers. At the same time, the presence of a federalized broadband mapping program could unwittingly dissuade states and local governments from funding and supporting more comprehensive and accurate mapping programs. As these Comments on Broadband Mapping demonstrate, effective "mapping" of the availability of broadband information cannot be accomplished through a spreadsheet filed at the Commission every six months. It requires actual work on the ground—to identify providers, assess terrain, and reach out to local business and community leaders. As a static object, a broadband availability map will have very little utility to demand-stimulation programs, policy makers, the provider community, or consumers. To be effective, a broadband availability map must be interactive, continually updated, and flexible enough for direct, customized work with state and local-led demand stimulation programs.

In Section I of these Comments on Broadband Mapping, Connected Nation demonstrates how its broadband availability mapping program is directly tied to its broadband demand-stimulation programs. Section II discusses how the Commission's proposed approach for a national broadband mapping program would—unwittingly— undermine and harm those programs. In Section III, Connected Nation proposes an alternative approach to achieve the Commission's stated goal of developing a nationwide broadband availability mapping program. Connected Nation's proposal would leverage and increase the momentum behind public-private partnerships that is building at the state and

local level, while at the same time meet the Commission's goals of having consistent and

reliable information on broadband availability nationwide. Indeed, Connected Nation's

proposal would provide the Commission, other policy makers, and the general public with far

more granular, verified, updated, and accurate information on the status of broadband

deployment than the Commission's proposal. Section IV offers concluding remarks.

I.   THE INTERRELATIONSHIP BETWEEN AN EFFECTIVE MAPPING PROGRAM AND SUCCESSFUL BROADBAND DEMAND STIMULATION PROGRAMS

By our direct operations in six states and discussions with dozens of other state

governments that are seeking to achieve similar ends, Connected Nation has learned that a

successful and effective broadband-stimulation program is dependent upon a comprehensive,

continuously-updated, and interactive broadband mapping program. Indeed, the very process

of building a broadband map—through painstaking research of network technology and

evolving dialogues with broadband providers and consumers—has a significant value in

jump-starting a broadband-stimulation program. This process of creating a map joins

community leaders, local businesses, and broadband providers in a common effort to

understand the needs and demands of small and rural communities.

In this Section, Connected Nation discusses the approach that it uses in its successful

programs in Kentucky and other states. As of this writing, Connected Nation has drawn and

continues to update broadband availability maps for nearly ten percent of the U.S.

population, in Kentucky, Ohio, South Carolina, Tennessee, and West Virginia. Connected

Nation has been contacted by many more states to provide similar solutions or assist those

states in their own efforts, including states with needs and challenges as varied as California,

Alabama, and North Dakota.

A.   The Connected Nation Approach to Mapping and Broadband Stimulation

Connected Nation is a non-profit organization that grew out of a successful pilot

initiative called ConnectKentucky, which is working toward the universal availability of

broadband services in the state of Kentucky.[2] Connected Nation believes that no community

should be left behind and that it is the responsibility of government and policymakers to

ensure that all communities and individuals have the opportunity to participate in the

Information Economy.[3] Importantly, Connected Nation has learned that the most effective

means of doing so is to enlist and coordinate the efforts of grassroots community

organizations, the educational community, the private sector, and local and state public sector

officials by providing them with information about where broadband is lacking or

unavailable and spurring these forces into action. Connected Nation creates strong,

community-based, public-private partnerships that are determined to act on those ideas and

turn them into goals and measurable realities.

An accurate, comprehensive, and continuously updated broadband availability map is

a necessary—but not sufficient—key to our success. Since 2005, when ConnectKentucky

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[2]   Senator Richard Durbin has said: "Since its formation in 2001, Connect Kentucky has brought state government, providers, technology companies, and economic development units together to build one of the most innovative organizations in the country. . . . On a budget of only a couple million dollars per year, this organization has become a driving force of economic development and telehealth and education in the State of Kentucky." Sen. Richard Durbin, Floor Statement: Increasing Broadband Access to Improve Competitiveness (Apr. 24, 2007) (available at: http://durbin.senate.gov/showRelease.cfm?releaseId=280899).

[3]   As Commissioner Deborah Taylor Tate stated recently, "our rural and less-populated states and regions should not be left off the Information Super-Highway, and thanks to innovative thinking by groups like Connected Nation, it looks like they won't be." Commissioner Deborah Taylor Tate, "Broadband to the Home:

launched its mapping and demand-stimulation programs, broadband adoption has grown

considerably faster in the state of Kentucky than elsewhere in the United States in the last

few years. As can be seen in Figure 1, adoption rates in Kentucky grew from 24% of

households subscribing to broadband services in 2005 to 44% at the end of 2007. This

represents a growth rate of 83%, which compares favorably with the national average growth

rate of 57%. Broadband demand grew particularly fast in rural counties in Kentucky,

registering an adoption growth rate of 106% during the same period.

**FIGURE 1: 2005 -2007 BROADBAND ADOPTION GROWTH RATES
IN KENTUCKY AND THE USA**
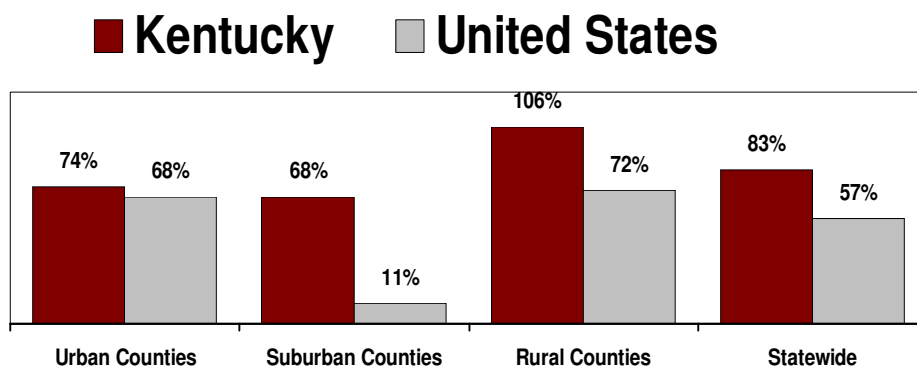
Importantly, as demand for broadband services grew, broadband network capacity in

Kentucky increased from an estimated 60% of households passed in the state of Kentucky

prior to the beginning of the program, to 95% at the end of 2007.[4] This increase in private

broadband infrastructure investment flowed from the demand growth, making previously

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Broadband to America," Speech to Broadband Properties Summit (Apr. 30, 2008) (available at:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-282030A1.pdf).

[4]   For more information *see* Connected Nation, *The Economic Significance of Stimulating Broadband
Nationally* (Feb. 21, 2008) (available at
http://www.connectednation.org/documents/NewForPrint_2008_02_21_TheEconomicImpactofStimulatingBroa
dbandNationally_AConnectedNationRep.pdf).

unviable business cases for wireline and wireless broadband networks a profitable

proposition. Largely as a result of these demand side programs and subsequent private sector

investment, the number of households that remain unserved in Kentucky has decreased

dramatically.

A similar story is unfolding in Tennessee, as can be seen in Figure 2 below. In just

the first six months of the Connected Tennessee program, home broadband adoption has

doubled the national growth rate. Rural areas have seen the most significant increases, as

home broadband adoption increased by 37% over a six month period.

**FIGURE 2: PERCENT OF TENNESSEE RESIDENTS WITH
BROADBAND SERVICE AT HOME[5]**
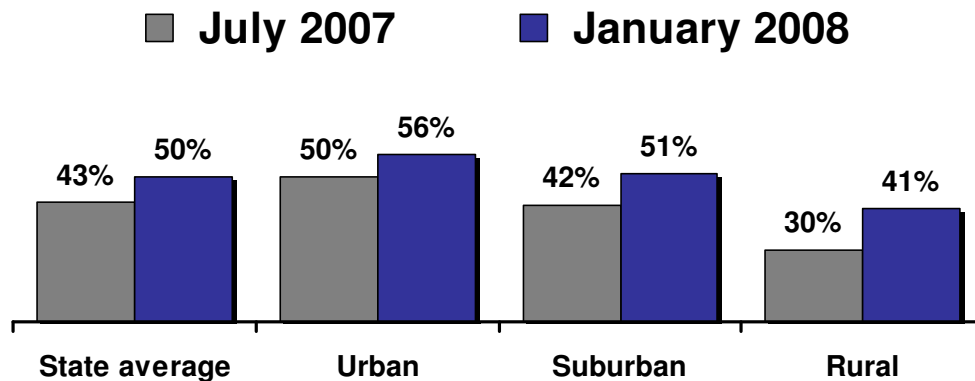
In each state where it operates, Connected Nation embarks upon a comprehensive

approach focusing on demand-side and supply-side aspects of the broadband market. This

process has four core steps. First, Connected Nation works in collaboration with broadband

providers to collect supply-side network information that it translates into granular, statewide

maps of broadband availability.

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[5]   Connected Tennessee Residential Technology Assessment (Jan. 2008).

Second, this supply-side information is combined with information about demand-side factors through local market research. The goal of this research is to better understand key barriers to broadband adoption at the community level and to evaluate how broadband services and applications are affecting businesses and households where they are in use.

Third, the mapping and research activities provide necessary information to effectively undertake comprehensive, grassroots demand-stimulation efforts that engage community leaders in the development of a pragmatic broadband policy plan. Each such plan is aimed at tackling the barriers to adoption and improving broadband use in each particular community.

Fourth, Connected Nation focuses on improving technology literacy, awareness, and computer ownership. Our research has consistently shown that lack of a computer is the number one barrier to Internet adoption. Connected Nation's No Child Left Offline® (NCLO) program tackles this problem directly by bringing computer equipment to low-income children and other disenfranchised populations. Community and education efforts such as No Child Left Offline® have the effect of generating demand for broadband services in previously unserved areas, and this demand spurs additional private sector broadband investment. The effect is to sharply and quickly decrease the geographic scope of unserved areas in the states in which Connected Nation operates, while simultaneously improving technology literacy and Internet use.

1. Broadband Inventory Maps

Connected Nation's broadband inventory maps are painstakingly built to serve an important purpose: to provide critical information to consumers, local leaders, state policy makers, and industry about where broadband access is available and where it is not available. By identifying unserved and underserved communities at a granular level, these maps help formulate more focused and targeted strategies to insure universal digital inclusion.

The creation of Connected Nation's broadband inventory maps is a critical component of its programs, because these maps help educate community leaders, elected officials, and the private sector as to the particular challenges and opportunities that broadband faces in each community. Importantly, these maps are not simply maps of communications infrastructure but also contain information about planned development and other civil infrastructure like water lines, sewer lines, and planned roads.

Connected Nation's mapping process begins with a street-level inventory of the broadband offerings in a community. This information is collected from broadband providers, who voluntarily collaborate with Connected Nation through a constructive dialogue to ensure their service offerings are accurately represented on the map. This collaborative process is important and extensive because different broadband providers house data in a multitude of ways based on the type of technology used, the sophistication of each provider's storage system, and the resources available. Given this reality, Connected Nation has found it impossible to achieve a highly detailed, street level broadband map through a

standardized, rigid, one-size-fits-all data collection process.[6] For example, in Kentucky, the

overwhelming majority of providers—more than 80 broadband providers in the state, most of

whose networks are located in predominantly rural areas—do not have address-level

availability information stored in a systematized format that Connected Nation could readily

use to generate a map.

In order to adapt to this reality, Connected Nation developed a flexible process of

working directly with each provider on the ground to understand what technology has been

deployed and how data is stored.   This dialogue explores each carrier's network structure

and the particular technology in place. Connected Nation then helps providers to gather

and/or identify data, contextualizes the data in accordance with geography and topography,

translates these data into a GIS format, and finally works with the citizens and businesses in

local communities to verify that the maps are accurate.

To that end, Connected Nation defines a strategy for each provider and technology to

determine how to translate any limited network information into preliminary GIS format and

then collect the rest. Connected Nation works on the ground directly with providers to

identify equipment locations and geographical coordinates, understand network variables and

topography/terrain constraints, and run tests to determine which households and businesses

have broadband service available and which do not have service available. Once this first

approximation of existing networks takes place, Connected Nation then works extensively

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[6]   The Commission has proposed to collect address-level information from providers that have this data.
Further Notice, *supra* n. 1 at ¶ 35. As discussed in Section II below, in Connected Nation's experience, this
process would generate information only from larger, more-urban service providers. As a result, the proposed
federal maps would be incomplete and dated the day they are released. The challenge for state demand-side
programs in obtaining information about broadband infrastructure in rural areas would remain and would in fact
be more difficult, given the presence of incomplete and inaccurate federal infrastructure maps.

with consumers and local leaders to verify the accuracy of the data, and continuously updates the maps so they become "real-time" maps.

There are many components to this verification process. Through grassroots awareness campaigns and our websites, consumers are encouraged to perform an address search on the broadband maps or call Connected Nation's toll-free number to find out which broadband providers have service available where they live. If consumers discover errors in the maps, they are encouraged to contact Connected Nation to help make the map more accurate. This consumer information is used to make corrections to the map at a street and household level to ensure accuracy at the lowest level of granularity. This highly transparent system of consumer oversight and verification was developed to provide a critical quality control on the mapping process.

The consumer feedback mechanism is not limited to verification of broadband data. Indeed, the ultimate goal is to ensure consumers are able to obtain complete information about the broadband services available (or unavailable) to them, so that communities either increase their use of broadband or aggregate demand to incent increased broadband deployment. To these ends, consumers are also encouraged to email or call Connected Nation if they need help interpreting the maps, if they cannot access the maps but want to understand their broadband options, or if they want to subscribe to broadband but cannot because broadband is unavailable where they live. This information on pent-up consumer demand is then aggregated and used in combination with other data to help build the business case for broadband deployment into unserved areas. Connected Nation has responded directly to more than 5,500 broadband inquiries.

In our experience, this quality control program would be impossible without the various feedback mechanisms that Connected Nation uses with the general public, community leaders, and providers on the ground. These feedback mechanisms ensure that the maps are continually updated with information from the consumers and the provider community and, therefore, always up-to-date.

The above process relates only to the broadband infrastructure component of Connected Nation's maps. Importantly, however, Connected Nation's maps also include information from Connected Nation local consumer and business surveys in order to understand the barriers to adoption and technology preferences in each community and local area. Additionally, data from various sources including the U.S. Census Bureau and state GIS departments are used to analyze topographic, demographic, and relevant civil infrastructure information. These data include information about potential collocation resources such as cell towers and water tanks, proposed infrastructure such as roads, developments, and water and sewer lines, and various demographic data such as household density. Connected Nation uses multiple combinations of all these various datasets to produce customized analysis and maps for local officials, economic development organizations, and technology providers on a daily basis. The purpose of these customized mapping analyses is to help those leaders build a business case for broadband deployment in their communities.

It is important to note that providers are not required to file data with Connected Nation or any state agency. Connected Nation's operations are organized as 501(c)(3), non-profit corporations that operate pursuant to grants from state governments. Because of this

public-private partnership model, confidentiality of company data is maintained. This legal

construct allows service providers to be more willing to collaborate with us and help us

determine, in detail, both the broadband gaps and the particular challenges to deploying

broadband in a particular area.

As a result, while broadband provider confidentiality is preserved, the output of

Connected Nation's maps is highly detailed and granular—far more so than the output that

the Commission would provide if it adopted the proposal in the Further Notice. This

granular, rich data provides critical information for the development of sound public policy

and network expansion business plans, including detailed descriptions of household density

and relevant demographic and economic information about unserved areas. All of this

information is made available to the general public in an interactive mode accessible via the

Internet. Connected Nation also generates community-level reports at the request of cities,

towns or municipalities.

Examples of Connected Nation's interactive broadband inventory and statewide maps

can be found at the following sites:

http://www.connectkentucky.org/broadband_landscape/interactive_map.php or

http://www.connectedtennessee.org/mapping_&_research/Interactive_Mapping.php.

http://connectohio.org/mapping_and_research/interactive_map.php

http://connectwestvirginia.com/mapping_and_research/interactive_map.php

http://connectednation.org/state_programs/south_carolina.php

The link below points to one example of the many county-level and custom maps that

Connected Nation creates – this particular example details the household density in areas

unserved by a broadband provider in Weakley County, Tennessee:

ftp://ftp.connectedtn.org/CTPublic/Connected_Tennessee_Mapping/County_Maps/County_
Density/Density_Weakley.pdf.

Printed examples of these maps are attached in Appendix A to these Comments.

As an extension of Connected Nation's custom mapping work with communities, we
work directly with local leaders and regional/local broadband providers to conduct
engineering assessments of areas unserved by a broadband provider in an effort to identify
the specific challenges and opportunities for deployment, gather detailed and necessary data
for potential technology options, and ultimately build a case for sustainable broadband
infrastructure deployment. In Kentucky alone, Connected Nation has used its resources to
conduct 25 county-wide engineering assessments in cooperation with local leaders. This
process is dependent upon and inextricably linked with the broadband availability mapping
process. Indeed, without comprehensive and accurate broadband availability maps, these
engineering plans would be counterproductive and effectively worthless. In a letter filed
before the Commission in this docket, Hal Goode, executive director of the Springfield-
Washington County Economic Development Authority in Kentucky, explained the link
between on-the-ground mapping and meaningful results for communities in his first-hand
account to the Commission in this proceeding. According to Mr. Goode,

> Using the detailed maps that they create, ConnectKentucky conducted an
> extensive engineering assessment of our county's unserved areas, identifying
> vertical assets such as water towers and existing cell towers that could be used
> for the network. And as a result, we have been able to construct a network
> without building any additional towers, using our existing resources in
> partnership with Springfield Water and Sewer and cellular companies. It was

ConnectKentucky who brought all of these players together and conducted the technical work to enable the project's success.[7]

Mr. Goode also reports on the success of this strategy, which was made viable because of the collaborative and comprehensive inventory maps created by ConnectKentucky:

> The broadband project implementation is well underway. At project completion, over 90% of Washington County's households will have access to broadband. That's up from 50% of households just last year. Many residents and businesses are now using broadband for education, healthcare, government services, working from home, buying and selling products online, and a whole host of other activities that dramatically improves their quality of life.[8]

The experience in Springfield-Washington County is one of several success stories that could be told from around the Commonwealth of Kentucky and the other states for which Connected Nation has created detailed broadband inventory maps.

2. Demand Survey Research

Maps are only one component of Connected Nation's research activities, but it is the process of creating a map which serves as a launching point for further research. Connected Nation engages in extensive survey research to better understand the barriers to broadband technologies and applications within a given community. This research also helps identify pent-up demand for prospective services in communities that private broadband service providers may not yet recognize. All of this information is essential in developing broadband capacity build-out plans within the communities served by Connected Nation broadband maps and custom mapping analyses.

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[7] Letter from Hal Goode, Springfield-Washington Economic Development Authority, to FCC Chairman Kevin J. Martin, WC Docket No. 07-38 (Jul. 9, 2008) (available at: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520033622).
[8] *Id.*

The barriers to adoption of broadband technologies and applications vary widely and depend on income, education, geography, and cultural factors. Household levels of computer ownership and literacy, awareness of broadband applications, and their impact on broadband adoption rates are important barriers to adoption, and Connected Nation utilizes statewide surveys of residential consumers to examine these key questions.

These detailed research reports are available to the public through Connected Nation's state program websites. Most recently, in June 2008, Connect Ohio released the results of its 2008 residential and business surveys:

http://connectohio.org/mapping_and_research/Technology_Assessment.php

This state level research is then drilled down to the county level in order to inform the tactical strategy in each county or community. Connected Nation has learned from experience that a "one size fits all" approach is not effective for creating local broadband plans if communities are to effectively and sustainably fill the broadband gaps. For example, the plan for a mountainous, mining community in Eastern Kentucky will be substantially different than the challenges faced in the farming communities of northern Ohio.

Therefore Connected Nation develops custom county-level technology assessments in every county throughout a state, and these assessments are combined and analyzed with customized broadband maps to provide a solid research basis for the strategic demand promotion planning process in each county and community. A direct link to one example—Grainger County, Tennessee—can be found here:

http://connectedtn.org/_documents/Grainger.pdf

The technology assessments for any one of Kentucky's 120 counties or Tennessee's 95

counties can be found by clicking on any county at the following web links:

http://www.connectkentucky.org/find_your_county/counties/ or

http://www.connectedtennessee.org/ecs/counties/. County level technology assessments are

currently being prepared for Ohio, based on surveys which were recently conducted.

This research works hand-and-glove with the Connected Nation broadband mapping

process. The purpose of the process is not simply to collect and disseminate data; the process

is designed to spawn integrated, comprehensive, and collaborative engagement between

broadband providers and the communities that they serve. The very process of creating a

map in a community requires the active input of broadband providers (who have broadband

infrastructure information), local governments (who have public infrastructure information

like proposed roads, water and sewer lines), and business and citizens (who are the source of

broadband demand). Connected Nation's approach is not static and is not directed only at

identifying broadband gaps. Rather, it provides the foundation and tools to create a

comprehensive and customized plan to fill those gaps. The combination of local knowledge

and resources with an effective broadband map allows broadband providers and communities

to accurately mesh technology deployment with potential users of application development,

all while increasing community awareness and adoption.

3. eCommunity Leadership Teams

Connected Nation's work does not end with the broadband inventory maps and

survey research. In fact, these projects are just the beginning of an effective demand-

stimulation program. Connected Nation utilizes this research to create a community-driven

technology planning process that creates demand for broadband and information technology services, which in turn drives private sector investment, thereby increasing broadband availability while improving technology use.

Local community and business involvement is critical to the success of the Connected Nation program because, unfortunately, many of the benefits of broadband go unrecognized or unrealized, particularly in the most rural areas. Even where broadband is available, the adoption rates are often low, and low take rates mean that such areas will likely not receive the next generation of higher capacity broadband services. As a result, a key to encouraging adoption is to demonstrate how technology can impact the quality of life locally across all relevant sectors of the local economy.

Connected Nation has developed a strategy to tackle this problem through grassroots involvement called "eCommunity Leadership Teams." These teams become the point of contact between broadband service providers and local communities. Community leaders come from key sectors such as healthcare, education, security and the local private and public sectors, all of whom volunteer to develop and implement technology promotion plans within their communities. In this manner, the Connected Nation model fosters a sustainable, grassroots coalition of community leaders representing local government, education, healthcare, businesses, government, libraries, agriculture, tourism, and community-based organizations. Connected Nation brings information technology consultants that specialize in community-based technology planning that help communities effectively and efficiently leverage broadband and computer technology. Connected Nation also helps communities quantify their existing use of technology—information that is valuable in attracting private

sector broadband infrastructure investment—and also helps identify alternative broadband technologies (such as WiMax) that might provide solutions in particularly hard-to-serve areas.

The goal of these eCommunity Leadership Teams is to use the dynamic mapping and research products in devising a comprehensive, community-based technology planning program. These programs result in county-level tactical technology expansion plans that provide detailed agendas for creating targeted online applications for citizen services, technology literacy programs, awareness building campaigns, and cross-sector collaboration for smart technology investments. Often plans include detailed analysis of the best means of deploying new and available technology across each of the aforementioned sectors. The overarching purpose of these eCommunity Leadership Teams is to create and aggregate demand for broadband, identify locally relevant applications or solutions, foster cooperation across both private and public sectors to ensure that the community's needs are fully addressed, and create local awareness of the opportunities of broadband.

These teams are the heart of the success of Connected Nation's comprehensive strategy to promote broadband demand and stimulate private investment. Through these teams, communities are engaged in their digital futures and take charge of practical, viable, and sustainable solutions that address the particular barriers to broadband availability and adoption in those communities. One example of these grassroots efforts is the Strategic Technology Plan for Edmonson County, Kentucky, which can be found on our website at http://www.connectkentucky.org/NR/rdonlyres/C9A183EF-A864-45C4-8147-9300E441D63A/0/1_EDMONSONCOUNTYSTRATEGICTECHNOLOGYPLAN.pdf. The

ultimate results of these efforts, however, can be found in the countless success stories, some

of which are told through our *Connected* newsletters, which can be found at

http://www.connectkentucky.org/news_&_events/Publications/connected.php.

These community programs are successful because they build sustainable, grassroots

support for broadband adoption and deployment. Broadband providers will invest in

networks in areas where they know that demand for their service is present and sustainable—

and the eCommunity Leadership Teams provide that demand stimulation and stability.

4. No Child Left Offline® (NCLO)

Another component of Connected Nation's work is the No Child Left Offline

program. We have consistently found that the primary barrier to Internet adoption is lack of

computer ownership and lack of understanding the value proposition of broadband services.

According to 2008 research recently conducted by Connect Ohio, 52% of households who do

not have access to Internet services at home (broadband or dialup) reported lack of a

computer as the primary reason for the lack of connectivity.[9] Research conducted in

Tennessee and Kentucky shows similar results.[10] These data are supported by academic

research that shows that education and income inequality are important factors that explain

low broadband adoption rates.[11]

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[9]   *Connect Ohio 2008 Residential Technology Assessment.* Available at:
http://connectohio.org/_documents/Res_OH_06262008_FINAL.pdf

[10]   ConnectKentucky, *2007 Kentucky Technology Trends: Results of the 2007 ConnectKentucky Residential Survey.* Available at
http://www.connectkentucky.org/_documents/2007KentuckyTechnologyTrends_residential_3-28-08_001.pdf
        Connected Tennessee, *Technology Assessment of Tennessee Residential Consumers* (Sep. 2007).
Available at http://www.connectedtennessee.org/_documents/CTResidentialSurvey100107.FINAL.pdf.

[11]   *See* G. S. Ford, T. M. Koutsky and L. J. Spiwak, *The Demographic and Economic Drivers of Broadband Adoption in the United States,* PHOENIX CENTER POLICY PAPER No. 31 (Nov. 2007). According to the Phoenix Center, "broadband adoption is intimately tied to demand-side factors like income inequality and

These challenges are so endemic and impact "take rates" so significantly (and not simply in rural, high-cost areas) that if left unaddressed, they necessarily will drive investment decisions by broadband service providers. Even if currently served by broadband, low-income areas with low computer ownership levels are at risk of not seeing the next generation of broadband service in a timely manner. In response, Connected Nation created the No Child Left Offline program. No Child Left Offline brings together public and private partners to promote digital inclusion by placing computers in the hands of disadvantaged children and their families.

No Child Left Offline has already delivered more than 2,000 Internet-ready computers to disadvantaged individuals and families across the state of Kentucky, and the program is now underway in Ohio. A similar program, Computers 4 Kids, is tackling this challenge in Tennessee. Operated by Connected Tennessee and the state's Department of Human Services and the Department of Children's Services, Computers 4 Kids is scheduled to deliver 3,000 computers to underprivileged children and their families in the next three years.

No Child Left Offline and its sister programs have had a dramatic impact on the lives of thousands of families. According to the ConnectKentucky 2005 and 2007 Residential Technology Assessments, computer ownership among low-income families in No Child Left Offline counties grew nearly four times faster over the last two years than among low-income families in other counties. During the same two-year period, Internet adoption among low-income families in No Child Left Offline counties grew more than ten times faster relative to

education, and policies directed at those factors may be more cost effective than supply-side subsidies and

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these families in other areas of the state. Broadband adoption among low-income families

grew five times faster in counties that received computers through No Child Left Offline.

Indeed, in the last two years, home broadband adoption among low-income families has

grown by over 200% in these participating counties (Figure 3).[12]

FIGURE 3: HOME TECHNOLOGY ADOPTION AMONG LOW-INCOME FAMILIES
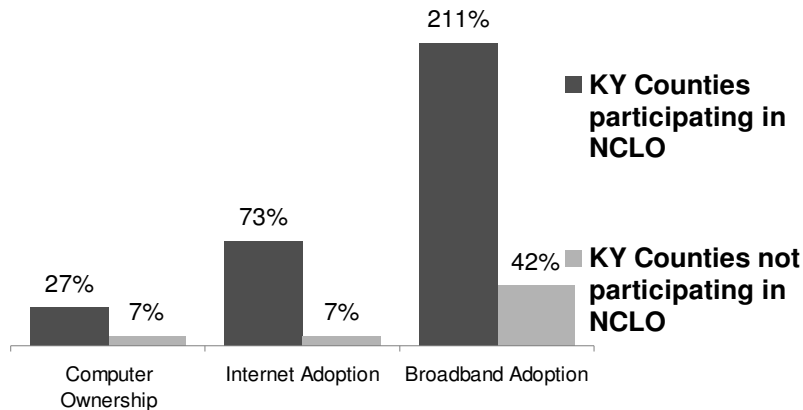
It is quite clear that programs like No Child Left Offline have a substantial impact

upon broadband adoption rates. And adoption rates are the key to ensuring that communities

continue to receive next-generation broadband investment.

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regulation." *Id.* at 5.

[12] Counties participating in No Child Left Offline include the Kentucky counties of Johnson, Clay, Wolfe, McCreary, Owsley, Carter, Lawrence and Morgan. Low-income is defined as annual household income below $25,000. *See 2007 Kentucky Technology Trends, supra* n. 10, at 27.

**B.   The Mapping Process Should Not Be Managed Separate and Apart from
the Demand-Stimulation Process**

The above discussion demonstrates that the broadband mapping process is an integral

part of a successful demand-stimulation program. The involvement of service providers,

local businesses, community leaders, and technical experts in the mapping process serves as

a launching pad for community-specific and successful demand programs. The collaborative

nature of a public-private process facilitates this exchange of information, and the result is

that often during the mapping process, possible solutions to a particular community's

problems may become readily apparent.

In this regard, the mapping process is of particular value for smaller broadband

service providers. As discussed above, many of these service providers, some with perhaps

only a few hundred customers, do not know the precise potential contours of their broadband

offerings. This is particularly true for small firms like wireless Internet Service Providers,

many of which do not have address-level databases that they could file with the Commission.

These providers would be missed entirely by the Commission's proposed approach—and

their presence would be sorely missed because in many areas they represent the answer to

broadband deployment challenges. A provider that is not "on the map" will be "off the radar

screen" for community leaders that are exploring how to obtain better broadband

infrastructure for their community.

For this reason, Connected Nation urges that the Commission understand the direct,

symbiotic relationship between a broadband mapping program and successful, locally-driven

broadband adoption programs. Unfortunately, in the Further Notice, the Commission

appears to have it backward. The Commission states that a federal broadband mapping

program would help demand-stimulation programs like ConnectKentucky—apparently out of the belief that federal maps would allow programs to focus upon demand-stimulation and education and not focus or even understand the status and challenges of local broadband infrastructure. Instead, as discussed below, the Commission's proposed approach would generate static, incomplete, and even possibly inaccurate maps of broadband availability. Moreover, on a practical basis, the federal approach would essentially occupy the field and effectively halt state and local government initiatives to map broadband infrastructure in their own communities. The result would be counterproductive and would hinder the very demand-stimulation programs that the federal mapping program is ostensibly designed to help.

II.   **THE COMMISSION'S PROPOSAL WOULD BE INEFFECTIVE AND COULD HINDER—NOT FACILITATE-- STATE AND LOCAL DEMAND-STIMULATION PROGRAMS**

As discussed above, Connected Nation has been on the forefront of a movement by state and local leaders to identify and map areas without broadband service and to identify and implement aggressive demand-stimulation programs that are designed to increase broadband adoption and network deployment. While Connected Nation agrees with the Commission that accurate information on the availability of broadband services is important to successful demand-stimulation programs,[13] our experience suggests that the Commission's specific proposal to generate these broadband inventory maps is flawed, will not effectively inform public policy, and will not help those state and local demand-stimulation programs

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[13]   Further Notice, *supra* n. 1 at ¶ 34.

that it is intended to support. The Commission's proposal is problematic for the following

reasons:

1. *The Commission Proposes to Collect Incomplete Data.* The Commission

proposes to collect "information that providers use to respond to prospective customers to

determine on an address-by-address basis whether [broadband] service is available."[14] The

Commission asks for "comment on this conclusion, and on what standardized formats could

be used to collect the information."[15] In the last four years, Connected Nation has worked to

obtain broadband availability data from hundreds of broadband service providers, ranging

from small municipal broadband companies to the largest telephone and cable companies,

and we have found that only the largest (and mostly urban) providers have this information.

For example, in Kentucky, such address-level databases were available only from a tiny

minority of broadband providers. More than 80 broadband providers in the state—

overwhelmingly those whose networks are located in predominantly rural areas—do *not* have

this information.

Hence, in the best of cases, the Commission's proposal would produce incomplete

maps with gaps in the very unserved or underserved areas where the broadband inventory

information is necessary. In Connected Nation's experience, and as described in detail in

Section I above, this labor intensive process cannot be substituted by a systematized periodic

"dump" of data from the provider community to the Commission. Collecting the detailed,

accurate and current information that is actually needed requires close collaboration and

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14   *Id.* at ¶ 35.
15   *Id.*

cooperation with service providers, as well as input from consumers and community leaders, which best can be achieved through public-private partnerships like ConnectKentucky.

In short, the Commission's proposed deployment data gathering strategy at best would produce incomplete maps that present detailed information on the deployment networks of large, primarily urban providers, while containing broad holes, devoid of information, in the very rural and unserved areas that a federal mapping project is attempting to identify and analyze.

2. *The Commission Proposes to Disseminate Data that likely would be Dated and Inaccurate.* Another flaw of the Commission's proposal is the fact that it would rely upon static filings from broadband providers. Given the rapid growth of broadband services, the data the Commission proposes to collect would almost immediately be dated and, lacking a grassroots mechanism for data verification, inaccurate. At best, the Commission would only be able to generate a dated, unverified, static national broadband map, which is an insufficient tool for state and local demand-stimulation programs. As a result, it is unclear that the data collected by the Commission would be substantially more useful than the increased subscribership data that it will collect under the recent Order in this docket. Indeed, because the improved subscriber data will be generated and submitted by all broadband providers at a Census Tract level, these data should prove useful for public-private partnerships as a preliminary tool for understanding available broadband access and speeds.

However, if the information the Commission proposes to collect through Section IV(B) in the Further Notice is collected in a similar manner as the current FCC Form 477,[16]

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[16]   *See* Form 477 Reporting Requirements & Deployment Data, http://www.fcc.gov/broadband/data.html.

the information collected would be two months old by the time it was reported to the

Commission, and if the Commission takes the same amount of time to generate its maps as it

does to create its semiannual High-Speed Services for Internet Access Reports, the maps

would 7-10 months out of date.[17] In contrast, as discussed above in Section I, the

information on Connected Nation's maps are updated constantly and adjusted based on

changes on the ground.

Not only would the Commission's data be dated, it is also unclear to what extent the

Commission would verify the data. As discussed in Section I above, Connected Nation

works directly with broadband service providers—the vast majority of them small

companies—to obtain broadband availability information. Connected Nation quickly learned

in the early days of the ConnectKentucky program that there are no "standardized formats

[that] could be used to collect the information."[18] In order to develop comprehensive,

reliable maps of broadband availability, it is necessary to work literally on the ground with

providers to manually collect much of the data on where broadband is offered. This includes

establishing a dialogue with each individual provider to understand what technology has been

deployed and how data is stored. Connected Nation then defines a strategy with each

provider and for each technology to determine how to translate this limited network

information into preliminary GIS format. Connected Nation then works on the ground with

providers to identify equipment locations and geographical coordinates, understand network

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[17]   The Commission has issued six High-Speed Services for Internet Access Reports since it revised its
Form 477 in 2004. Form 477 requires filing of broadband subscribership data twice a year, on March 1 for data
as of December 31, and on September 1 for data as of June 30. The six reports issued since adoption of the new
Form 477 since 2005 have come out an average of over 8 months since the data reporting cut-off date. *See*
Local Competition and Broadband Deployment, http://www.fcc.gov/wcb/iatd/comp.html.
[18]   Further Notice, *supra* n. 1 at ¶ 35.

variables and topography/terrain constraints, and run tests to determine which households

and businesses have broadband service available versus those which do not.

Once this first approximation of existing networks takes place, Connected Nation

then works directly and extensively with consumers and local leaders to verify the accuracy

of the data, and continuously update the maps so they become "real time" maps. In our

experience, this quality control program would be impossible without the various feedback

mechanisms that Connected Nation uses with the general public, community leaders, and

providers on the ground. These feedback mechanisms ensure that the maps are continually

updated with information from the consumers and the provider community and, therefore,

always up-to-date. The Commission's proposed approach does not contain any such

systematic, continuous, and labor-intensive feedback mechanism, and this failure would lead

to incomplete and dated maps that would be of little use to state and local public-private

initiatives.

Moreover, it is not clear that the information the Commission proposes to obtain

would generate sufficient additional information so as to be worth all of this effort. The

Commission's action in this proceeding to collect more granular subscriber data will already

result in the collection of more comprehensive broadband data from all broadband providers.

By collecting subscribership information, the Commission will effectively be collecting

broadband availability information by Census Tract. The only areas that are likely to be

"missed" are Census Tracts where broadband service is available but which contain no

subscribers—a highly unlikely occurrence. In short, the new Form 477 subscriber data will

already serve as a highly effective and accurate proxy for broadband availability at a Census

Tract level, enabling rich demographic analysis to inform policy discussions on both

broadband adoption *and* broadband availability.

The Commission has other tools that have the potential to generate availability

information. The recent Order in this proceeding establishes a "voluntary system that

households may use to report availability and speed of broadband Internet access service at

their premises."[19] Following the models established by the Communication Workers of

America's Speed Matters campaign,[20] Virginia Tech's eCorridors project,[21]

BroadbandCensus.com,[22] and Connected Nation's own online consumer speed tests,[23] this

new mechanism will provide the Commission with additional broadband availability data to

build upon Census Tract Form 477 data. Thus, the new Form 477 process and household

reporting system will provide the Commission with a rich dataset to produce a federal

broadband availability map at the Census Tract level.

In addition, even if the Commission were to obtain more detailed availability

information from all providers, its ability to actually use this information to support public

policy aimed at grassroots digital inclusion programs are hampered by law. Indeed, the

Commission admits that the Freedom of Information Act limits the ability of the Commission

to disclose confidential commercial information to the public (including public-private

partnerships like ConnectKentucky), meaning that it may only be able to share its broadband

availability information data "in a less granular or aggregated form."[24] Indeed, under the

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[19]   *Id.* at ¶ 18.
[20]   For further details regarding this initiative see www.speedmatters.org/
[21]   For further details regarding this initiative see http://www.ecorridors.vt.edu/
[22]   For further details regarding this initiative see http://www.broadbandcensus.com/
[23]   For an example of our online voluntary broadband speed test http://speedtest.connectedtn.org/
[24]   Further Notice, *supra* n. 1 at ¶ 39; *see also* 5 U.SC. § 552(b)(4), 47 CFR § 0.457(d).

law, it is unlikely that the Commission would be able to publish broadband availability maps

that are substantially more granular and technology-specific than the Census Tract

information it would obtain through the new Form 477 subscribership information. The

utility of any Commission-generated, online map or broadband availability tool would be

significantly limited by these confidentiality requirements. Indeed, these confidentiality

limitations would be most significant in rural areas that have only one or two potential

broadband providers. Quite simply, the Commission has limited ability under the law to

actually make relevant and comprehensive broadband availability information available to

local policy makers and public-private partnerships.

Connected Nation does not oppose national broadband availability maps—far from it.

Comprehensive, accurate, timely, and verified broadband availability information is critical

to successful broadband demand-stimulation programs. What Connected Nation does oppose

are maps that are incomplete, inaccurate, out-of-date, or unverified. Such maps can, in fact,

do more harm than good. Currently, there is strong momentum behind comprehensive and

integrated mapping and demand-stimulation programs along the lines of ConnectKentucky

and similar projects in other states. That momentum can be stalled and halted in its tracks if

the federal government steps in and attempts to take over the broadband availability mapping

process. Quite frankly, in a time of tight government budgets, state and local funding to

create local broadband maps when the federal government has promised to publish their own

maps at some unspecified time in the future may be well neigh impossible to obtain. The

Commission needs to realize that jumping into this process will have an effect—and not

necessarily a positive one.   Fortunately, the Commission can develop a federal broadband

availability mapping program that would build upon the momentum of state and local public-private projects. In Section III below, Connected Nation outlines an approach in which the Commission would act as a national clearinghouse for broadband availability mapping projects.

III.   THE COMMISSION SHOULD ACT AS A NATIONAL CLEARINGHOUSE FOR PUBLIC-PRIVATE PARTNERSHIP MAPPING PROGRAMS

To develop more detailed broadband deployment maps for the purpose of informing grassroots broadband stimulation campaigns, Connected Nation proposes that the Commission act as a national clearinghouse for state and local public-private partnerships that are actively generating broadband availability maps and utilizing this information for demand-stimulation programs. This national clearinghouse function would ensure consistency across the data that individual state public-private partnerships develop and publish. The clearinghouse function would facilitate the creation of a national broadband availability map that would be far more granular and accurate than the Commission's existing proposal. As a result, the clearinghouse function would work with and not substitute, hinder, or stall existing state initiatives and public-private partnerships at the state and local level.

Incorporating—and not replacing--public-private partnerships into this process are seen by many policymakers as a key part of the broadband challenge. Commissioner Michael J. Copps has called for a "coordinated public-private partnership to meet this central infrastructure challenge of our time," and asserted that "we can tackle this one . . . with

business, government and communities all pulling together to get the job done." [25]

Commissioner Deborah Taylor Tate has noted specifically that "[i]t is important that the

Commission not hamper or undermine these [public-private] initiatives that are being

undertaken by State and local governments."[26] Commissioner Robert M. McDowell has

stated that "there may be differences in the approaches undertaken by these [public-private]

entities that cannot be easily replicated by the federal government."[27]

Connected Nation proposes that the Commission work directly with public-private

partnerships to establish best practices for "on-the-ground" broadband mapping and form a

national clearinghouse of state-based maps that would depict the status of broadband

deployment in a consistent format. This clearinghouse function would maintain and indeed

boost the success of public-private programs, pose less of a burden upon industry and the

public sector, and would provide federal and state policymakers with far more detailed and

timely data on the availability of broadband than the Commission could undertake directly.

This national clearinghouse would be used to provide a quality control measure for the Form

477 broadband data and also would provide a granular look at broadband availability, down

to the household level.

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[25]   Remarks of Commissioner Michael J. Copps, Pike and Fischer's Broadband Policy Summit IV, Washington, DC (Jun. 12, 2008) (available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-282890A1.pdf).

[26]   Statement of Commissioner Deborah Taylor, *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership,* WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, FCC 08-89 (rel. Jun. 12, 2008).

[27]   Statement of Commissioner Robert M. McDowell Approving in Part, Dissenting in Part, *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership,* WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, FCC 08-89 (rel. Jun. 12, 2008).

In Connected Nation's proposal, federal leadership would build upon the success of public-private partnerships in this important initiative. Moreover, Connected Nation's alternative is consistent with current Congressional efforts to encourage the work of state-based public-private partnerships that engage in broadband availability mapping and demand stimulation programs. This legislation is supported by a broad coalition of industry members, and it has generated strong bipartisan and bicameral support in Congress.[28] In short, Connected Nation's approach would create further momentum for public-private partnerships, complement (and not work against) Congressional efforts that are underway, and generate more accurate, relevant, and up-to-date availability maps for federal, state and local policymakers, industry, and the general public.

Specifically, Connected Nation proposes that the Commission take the following steps:

- In lieu of a federal mandate to file address-level marketing databases or other such requirements, the Commission should adopt a national policy that would recognize and facilitate the collection, dissemination and use of broadband availability maps at the state level by public-private partnerships. These state-based and regional maps would produce comprehensive and constantly updated maps that are highly detailed, down to the street and household level, and provide a useful tool for state and local efforts to increase technology literacy and broadband adoption through grassroots processes.

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[28]   Appendix B contains a recent letter from this broad coalition to Senate Commerce Committee Co-Chairmen Inouye and Stevens, House Commerce Committee Chairman Dingell, and House Commerce Committee Ranking Member Barton.

- The Commission would use the output from these state-based and regional maps to provide a national clearinghouse for broadband availability. The output from these state-based and regional mapping programs would be made fully available to the Commission, executive agencies, Congress, state and local governments, as well as the general public.

- In conjunction with public-private partnerships, the Commission would establish best practices for the creation and dissemination of broadband availability maps at the regional level. The Commission would host regional workshops to showcase and discuss best practices for state-based broadband availability mapping and demand-supply stimulation across the nation. This role would help ensure that the mapping inventory output of state-led public-private partnerships would be consistent, so as to facilitate demographic comparisons and studies on the rate of broadband growth between state and regions.

Connected Nation believes that this approach to broadband availability mapping is superior to the Commission's proposal for several reasons:

- *Better Maps Mean Better Policies and More Success Stories.* The data collected and disseminated under the Connected Nation approach would be more detailed, granular, timely, and useful for policymakers at the local, state and federal level. Only a tiny minority of broadband providers has the information that the Commission proposes to collect in the Further Notice.

- *Preservation of Confidentiality.* The Commission is specifically concerned about how to "maintain the confidentiality of broadband service information while still providing a rich resource for use by other federal agencies, states, localities, and public-private partnerships."[29] As discussed above, Freedom of Information Act restrictions limit the ability of the Commission to publish and disseminate confidential corporate information. As a result, in rural areas, where there are few providers, the Commission's broadband availability maps may be substantially redacted and practically worthless. Under Connected Nation's proposal, data from even the smallest providers would be gathered pursuant to non-disclosure agreements, but the information obtained would be utilized to generate detailed broadband inventory maps that are available publicly.

- *Lower Regulatory and Implementation Burden.* Connected Nation's proposal would help gather this data *without* imposing another mandate upon broadband service providers. Small and medium sized providers in particular simply may not have such data in usable form, so Connected Nation's proposal avoids imposing a huge burden upon these firms. Yet this approach would still provide policymakers and the public important and detailed information on broadband availability that is updated regularly.

- *Faster Results and Updated, Relevant Data.* At a state and local level, public-private partnerships can be much more flexible and efficient than the federal government in

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[29] Further Notice, *supra* n. 1 at ¶35.

collecting accurate data, verifying these data with consumers, and adjusting maps as

deployment continually changes. Connected Nation's proposal would provide the

government a rich and useful, near real-time tool for gauging the deployment and

spread of broadband in the country. It also would recognize the importance of

experimentation and diversity at the regional level, in response to evolving

technology and different regional conditions and needs.

- *Leverage—Not Halt—Momentum Behind State Initiatives.* The success of

  ConnectKentucky and similar broadband demand stimulation programs has spurred a

  tremendous interest by state and local leaders in creating such programs in their own

  areas. Connected Nation is currently at various levels of discussion with over half the

  states in the Union on extending our program to their jurisdictions. A federal

  broadband mapping program that incorporates and builds upon this success would

  continue this momentum and lead to rapid increase in broadband availability and

  adoption in the United States. Unfortunately, this momentum could be halted if the

  Commission continues on its current path. The Commission's proposed federal

  program would displace state-level mapping initiatives with the promise of

  "broadband maps" that would be available, at the very earliest, in late 2009. In a time

  of tight state budgets, the promise of new federal broadband maps could make

  funding for state-level mapping and demand-side stimulation programs difficult.

  What is worse is that at the end of the day, the federal maps would be of little use,

  because they would only contain dated and incomplete information. Rather than halt

  the momentum that is building at the states, Connected Nation's proposal would

leverage those successes and ensure that *all* policymakers, federal, state, and local, have a role in tracking the spread of broadband in the United States.

Local officials who have played an integral role in the success of these state-based efforts are calling for the Commission to ensure that any federal action related to broadband mapping would support public-private partnerships. Mayor Dennis Atha of Monterey, Kentucky has stated in this proceeding that "[i]t is my hope that the FCC can use this successful ConnectKentucky model as a guide in leading America to broadband solutions for everyone."[30] Another local leader in Kentucky, Hal Goode, Executive Director of the Springfield-Washington County Economic Development Authority, requested of the Commission that "[a]s you work to determine the best course for FCC action in mapping broadband availability, I encourage you to develop policies that will encourage public-private partnerships like ConnectKentucky to continue to thrive."[31] Mr. Goode specifically noted that "[t]hese grassroots-led programs not only do an excellent job of mapping broadband availability, but they also provide a tremendous resources to local governments as we work to find information technology solutions for our citizens."[32]

In short, Connected Nation's proposed approach would provide the Commission, policy makers, and the public with better and more timely information, would not impose a new regulatory burden upon the industry, would maintain confidentiality, and would leverage the success and momentum behind public-private partnerships that have been successful in

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[30]   Letter from Hon. Dennis Atha, Mayor, City of Monterey, Kentucky, to FCC Chairman Kevin J. Martin, WC Docket No. 07-38 (Jul. 14, 2008) (available at: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520034218).

[31]   Letter from H. Goode, *supra* n. 7.

[32]   *Id.*

promoting the adoption and deployment of broadband technology. The Commission can

play a valuable and important role as a national clearinghouse that would maintain consistent

output for state and regional broadband inventory maps and promote the adoption of best-

practices nationwide.

IV.   CONCLUSION

The spread of broadband technology to all corners of the United States is the "central

infrastructure challenge of our time."[33] Faced with such a daunting task, the country needs

public policies that that facilitate the cooperation of state, local and federal policymakers, the

broadband industry, the general business community, community organizations, and the

general public. Connected Nation strongly supports the Commission's efforts to improve the

broadband subscribership data that it collects and believes that this data will provide a wealth

of useful information that will inform public policy and private strategy and encourage

cooperation across all of these stakeholders.

Unfortunately, the Commission's proposal to implement a federal broadband

availability mapping program will have the opposite effect. The Commission proposes to

collect and map dated "address-by-address" marketing information from broadband

providers.   Such a strategy is unviable, because only a tiny minority of broadband providers

have this information. This is especially true for small and medium size providers that

typically serve rural areas. Hence, the Commission's proposed strategy would at best

produce a map with wide gaps in the very rural areas where this information is critically

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[33]   Remarks of Commissioner Michael J. Copps, *supra* n. 25.

needed. Further, the Commission's proposal does not include sufficient feedback mechanisms that would verify the accuracy of that data. Lacking a real-time quality control mechanism, the maps proposed would be not only inaccurate but quickly dated, and thus of little use to local policy makers and community leaders seeking to expand demand and broadband network infrastructure in their communities. Moreover, due to the Freedom of Information Act, the Commission would be significantly limited in its ability to disseminate detailed broadband availability information to the public, particularly in rural areas that only have a few providers.

In short, while the Commission has noted that it is embarking upon this federal mapping project in order to "provide useful information to other broadband initiatives undertaken by federal and state agencies and public-private partnerships, such as ConnectKentucky,"[34] the Commission's proposed approach misses the mark. Worse yet, the very prospect of a flawed federal broadband availability mapping program may halt the momentum that is growing behind independent state initiatives to undertake this task through public-private partnerships. The result of the Commission's proposal could very well be incomplete and dated broadband maps and ineffective state and local broadband demand-stimulation programs.

In these Comments, Connected Nation has proposed an alternative approach in which the Commission would leverage the success of public-private partnerships and act as a national clearinghouse for their efforts. The Commission can act to ensure that there is a consistent output from state-level broadband inventory mapping programs, in order to create

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[34] Further Notice, *supra* n. 1 at ¶ 34.

a unified map of national broadband availability. The information that would be available to

the Commission and the public from this approach would be far more detailed, rich, accurate,

and timely than the proposal in the Further Notice. And just as importantly, a national

clearinghouse role would have the Commission join—and not halt—the movement behind

the broadband public-private initiatives that are proven successes.

Respectfully submitted,

/S/

Laura Taylor
Raquel Noriega
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July 17, 2008

APPENDIX A
CONNECTED NATION'S BROADBAND INVENTORY MAPS IN KENTUCKY, TENNESSEE, WEST VIRGINIA, SOUTH CAROLINA, OHIO, WARREN COUNTY, KY AND WEAKLEY COUNTY, TN

Broadband Service Inventory for the State of Tennessee
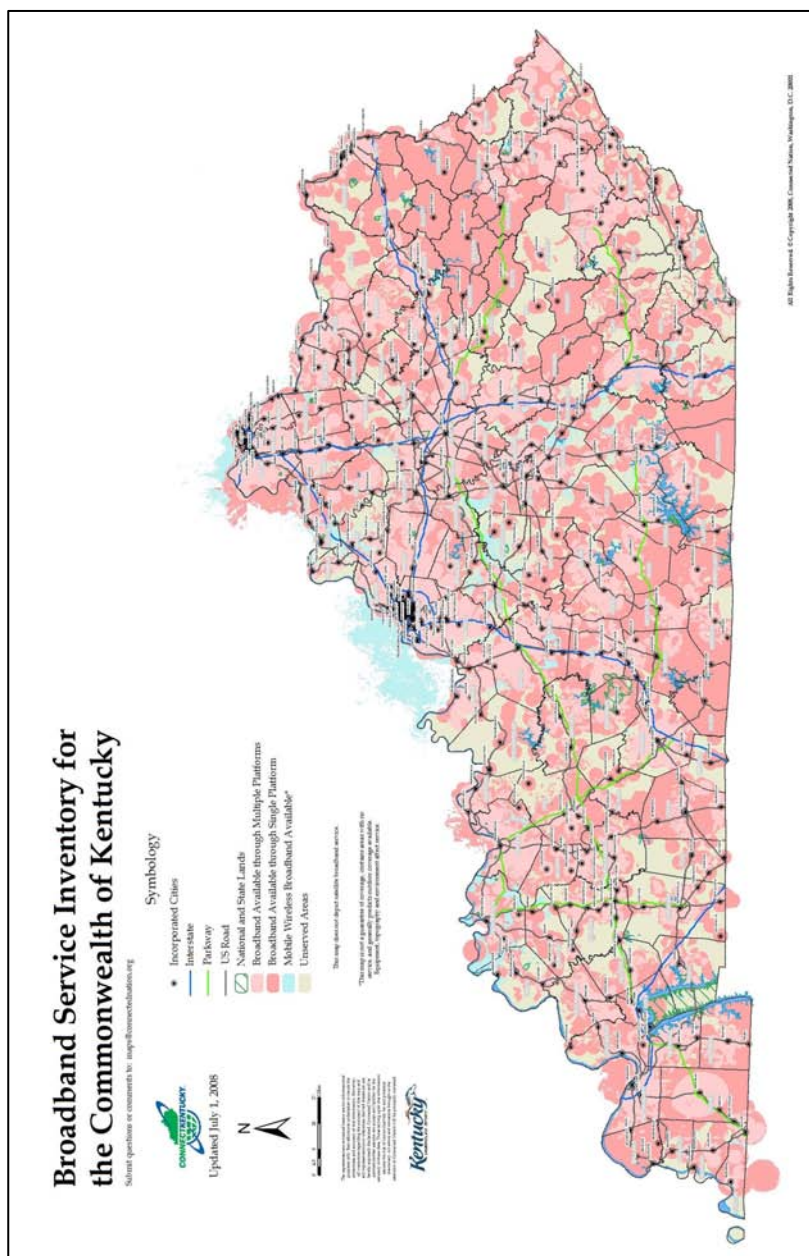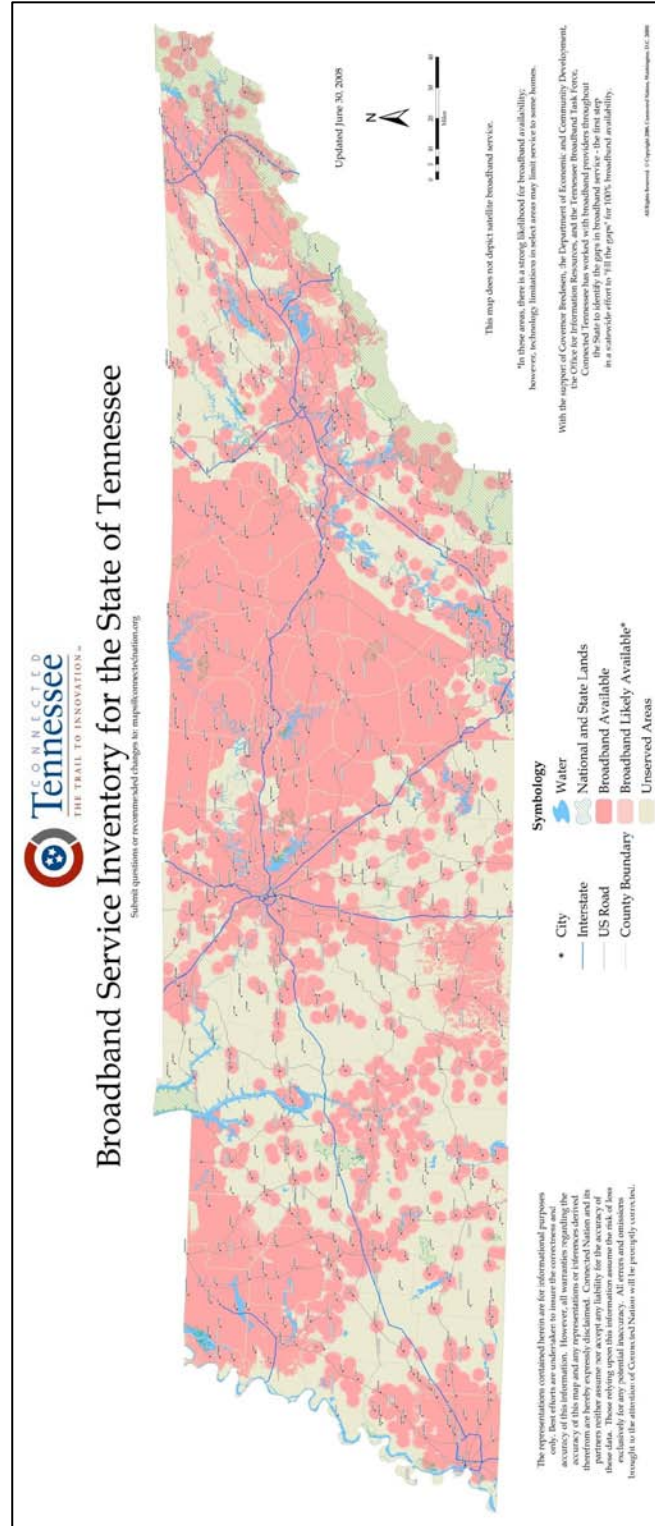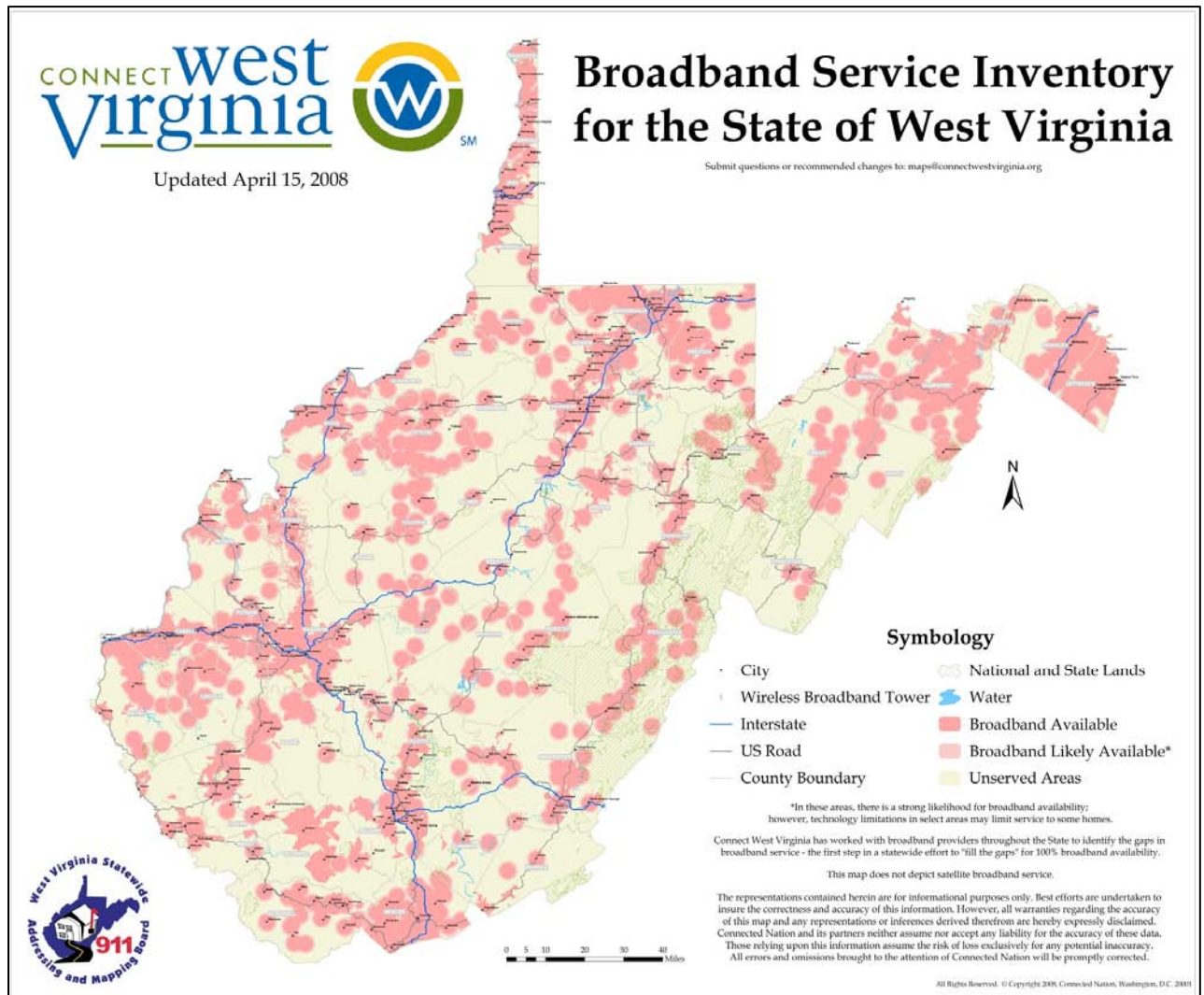
Broadband Service Inventory for the State of Ohio

Submit questions or recommended changes to: maps@connectohio.org

CONNECT OHIO℠

Updated June 27, 2008

Miles
0 4.5 9   18   27   36

Symbology

· City

✕ Towers

— Interstate

— US Road

— County Boundary

≈ Water

▨ National and State Lands

■ Broadband Available

■ Broadband Likely Available*
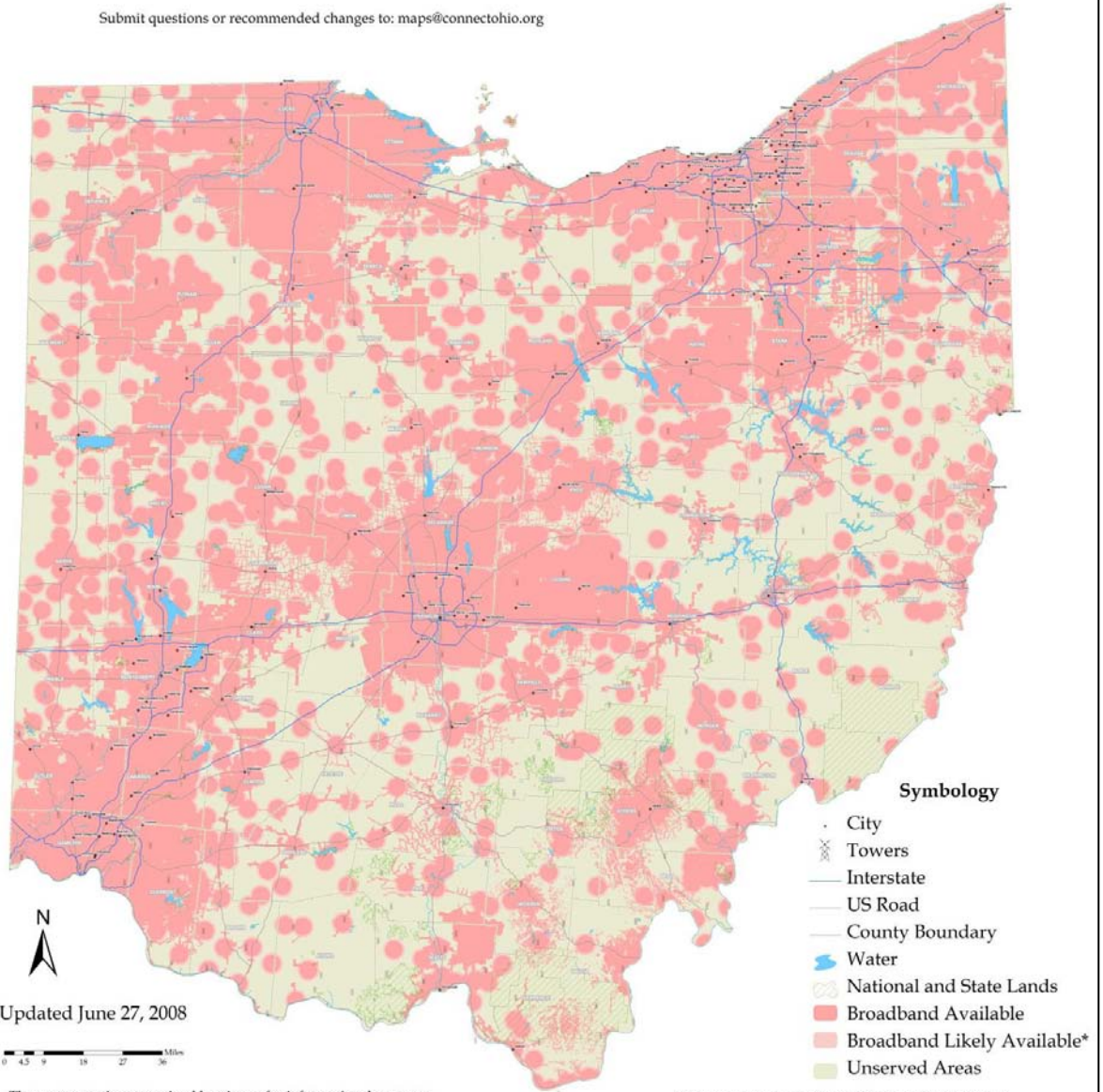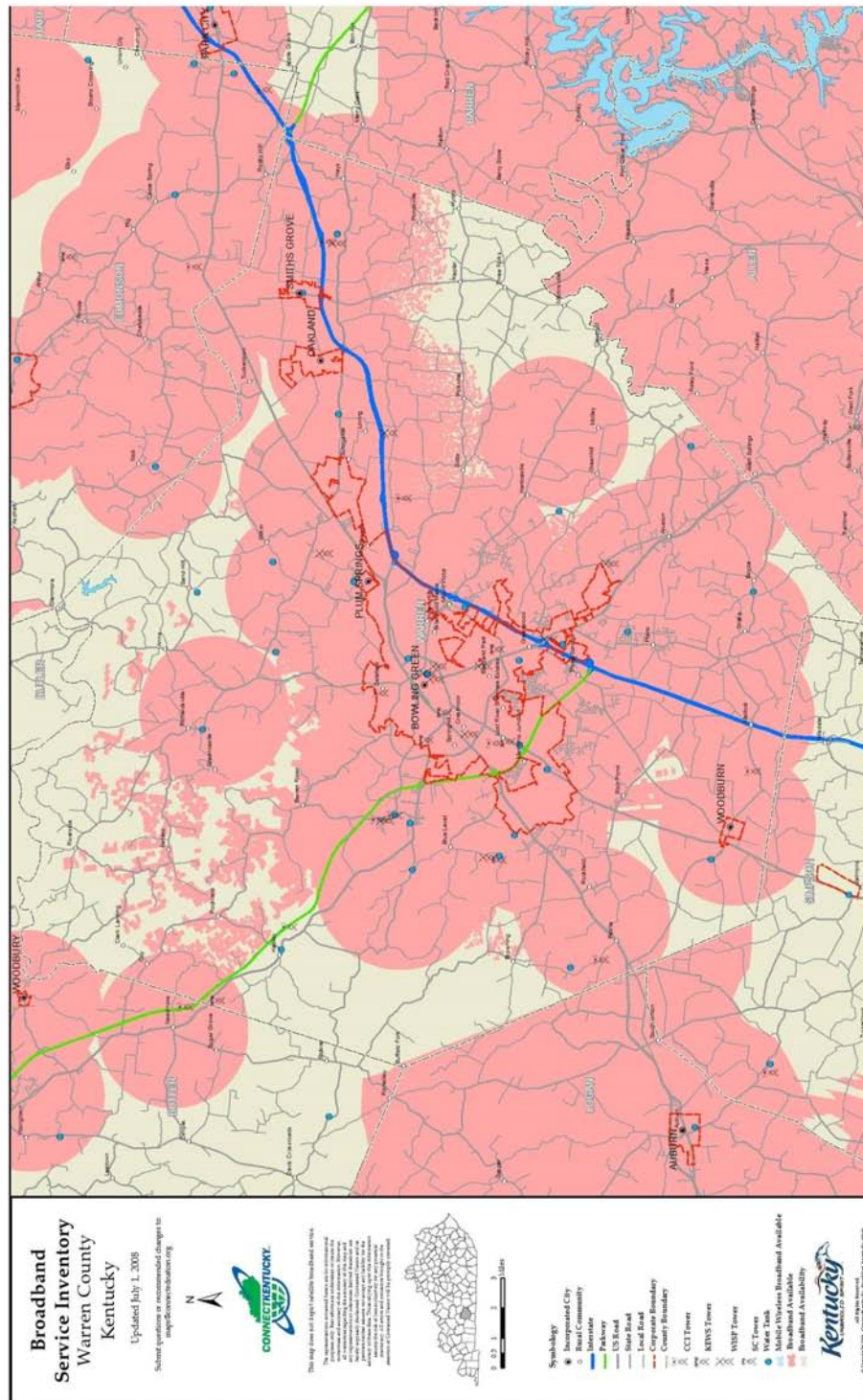
■ Unserved Areas

The representations contained herein are for informational purposes only. Best efforts are undertaken to insure the correctness and accuracy of this information. However, all warranties regarding the accuracy of this map and any representations or inferences derived therefrom are hereby expressly disclaimed. Connect Ohio and its partners neither assume nor accept any liability for the accuracy of these data. Those relying upon this information assume the risk of loss exclusively for any potential inaccuracy. All errors and omissions brought to the attention of Connect Ohio will be promptly corrected.
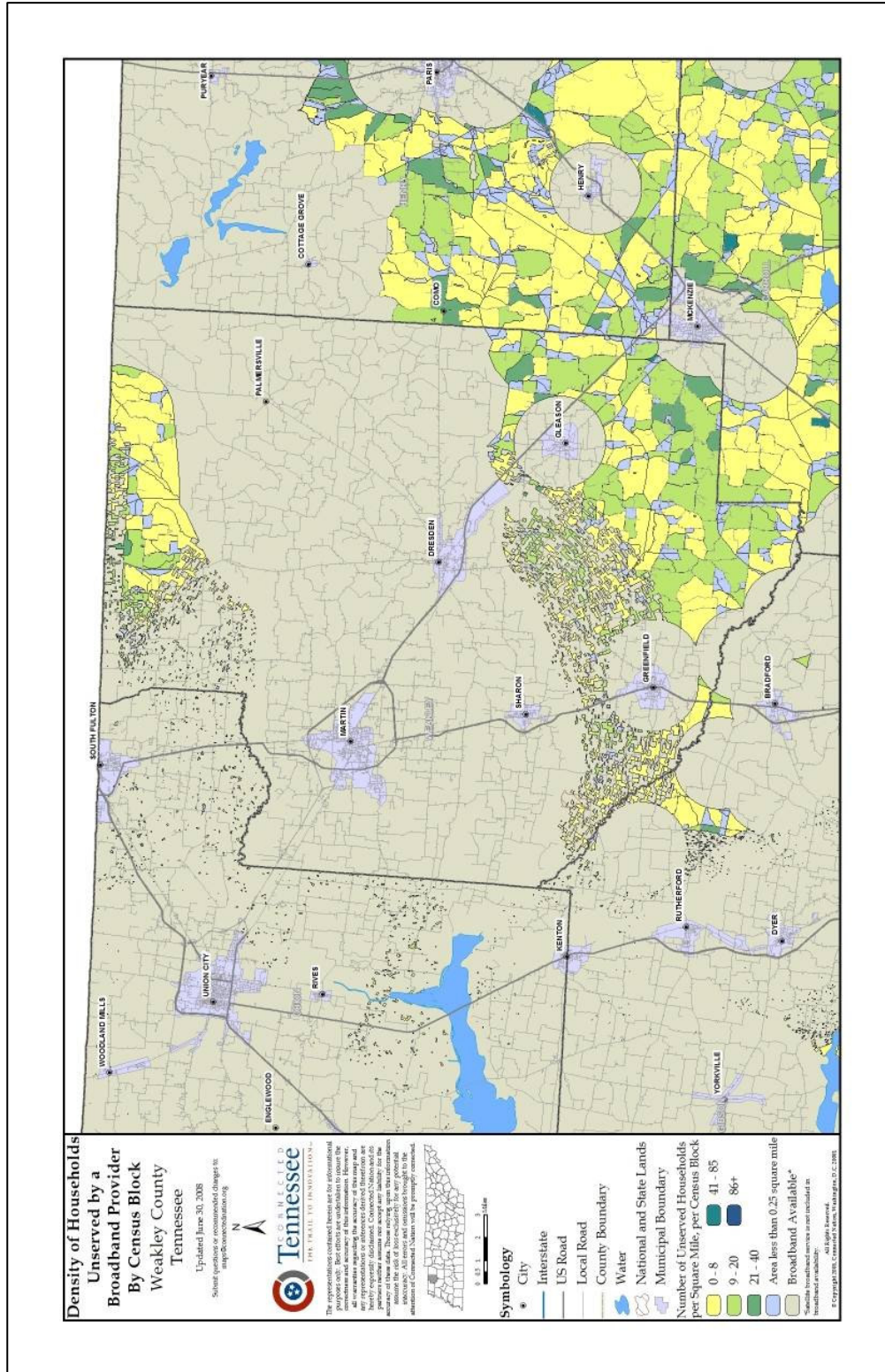
This map does not depict satellite broadband service.

*In these areas, there is a strong likelihood for broadband availability; however, technology limitations in select areas may limit service to some homes.

Connect Ohio has worked with broadband providers throughout the State to identify the gaps in broadband service - the first step in a statewide effort to "fill the gaps" for 100% broadband availability.

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Broadband Service Inventory, Warren County, Kentucky. Updated July 1, 2008.

Density of Households
Unserved by a
Broadband Provider
By Census Block
Weakley County
Tennessee

APPENDIX B

COMMENTS OF CONNECTED NATION, INC.

ON BROADBAND MAPPING

WC DOCKET NO. 07-38

JULY 11, 2008 COALITION LETTER TO MEMBERS OF CONGRESS

July 11, 2008

The Honorable Daniel K. Inouye   The Honorable John D. Dingell
Chairman   Chairman
Senate Commerce Committee   House Committee on Energy and Commerce
Washington, D.C. 20510   Washington, D.C. 20515

The Honorable Ted Stevens   The Honorable Joe Barton
Vice Chairman   Ranking Member
Senate Commerce Committee   House Committee on Energy and Commerce
Washington, D.C. 20510   Washington, D.C. 20515

Dear Chairman Inouye, Vice Chairman Stevens, Chairman Dingell and Ranking Member
Barton:

The undersigned organizations write to express our strong support for Congressional action
to promote greater availability and adoption of broadband high-speed Internet services.

The leading bills pending before Congress (S. 1492, the Broadband Data Improvement Act
and H.R. 3919, the Broadband Census of America Act of 2007) would improve information-
gathering about current broadband deployment and assist in targeting resources to areas in
need of such services. A recent FCC order requires more focused broadband data collection
from broadband providers but does not address other important broadband mapping elements
contained in the pending legislation.

We believe Congress should adopt legislation this year that provides federal government
support for state initiatives using public-private partnerships to identify gaps in broadband
coverage and to develop both the supply of and demand for broadband in those areas. The
ability to accelerate deployment and adoption by bringing together government, broadband
providers, business, labor, farm organizations, librarians, educators, and consumer groups in
public-private partnerships is greater than the ability of these diverse players standing alone.

Adopting a national policy to stimulate subscription where it is already available, and
deployment where it is not, could have dramatic and far-reaching economic impacts. For
example, a Connected Nation study released February 2008 estimated the total annual
economic impact of accelerating broadband across the nation to be more than $134 billion.
In addition to the $134 billion total benefit, the study found that increasing broadband
adoption by another seven percent could result in:

- **$92 billion** through an additional 2.4 million jobs per year created or retained;
- **$662 million** saved per year in reduced healthcare costs;
- **$6.4 billion** per year in mileage savings from unnecessary driving;
- **$18 million** in carbon credits associated with 3.2 billion fewer pounds of CO2 emissions per year in the United States; and
- **$35.2 billion** in value from 3.8 billion more hours saved per year from accessing broadband at home.

We cannot afford to let another year go by without adopting policies that will stimulate the economy in such ways, while expanding use of the networks that are already deployed and providing broadband in previously underserved areas. That is why we urge you to work in a bipartisan, bicameral way to enact federal legislation this year.

Thank you for your timely consideration of this important issue.

Sincerely,

AT&T
Alliance for Public Technology
American Association of People with Disabilities
American Library Association
Cablevision
Charter Communications
The Children's Partnership
Comcast
Communications Workers of America
Connected Nation
Cox Communications
EDUCAUSE
Embarq
Independent Telephone & Telecommunications Alliance
Information Technology Industry Council
International Brotherhood of Electrical Workers
Internet Innovation Alliance
NIC, Inc.
National Cable and Telecommunications Association
National Farmers Union
The National Grange
National Rural Health Association
Organization for the Promotion and Advancement of Small Telecommunications Companies
Qwest
Time Warner Cable
U.S. Cattlemen's Association

U.S. Chamber of Commerce
United States Telecom Association
Verizon
Western Telecommunications Association
Windstream

cc: The Honorable Harry Reid
        The Honorable Mitch McConnell
        The Honorable Richard J. Durbin
        The Honorable Jon Kyl
        The Honorable Nancy Pelosi
        The Honorable Steny H. Hoyer
        The Honorable John A. Boehner
        The Honorable Edward J. Markey
        The Honorable Cliff Stearns